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DOCUMENT RESUME

ED 298 731 EC 210 767

AUTHOR Clasen, Robert E.; Clasen, Donna Rae
TITLE Gifted and Talented Students: A Step by Step Approach to Programming.
INSTITUTION Wisconsin State Dept. of Public Instruction, Madison.; Wisconsin Univ., Madison. School of Education.
REPORT NO WDPI-Bull-8180
PUB DATE 87
NOTE 50p.
AVAILABLE FROM Wisconsin Department of Public Instruction, Publication Sales, 125 South Webster St., P.O. Box 7841, Madison, WI 53707-2188.
PUB TYPE Guides - Non-Classroom Use (055)

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS Academically Gifted; Creative Development; Creativity; Curriculum Enrichment; *Educational Diagnosis; Elementary Secondary Education; *Gifted; Gifted Disadvantaged; Individualized Instruction; Leadership Qualities; Models; *Program Design; Student Evaluation; *Talent; *Talent Identification; Teaching Methods; Testing
IDENTIFIERS Wisconsin

ABSTRACT

In response to the estimate that 15-20 percent of the school-age population in Wisconsin can be classified as gifted and talented, this document suggests approaches educators can take to identify these students and to design programs to meet their special needs. An introductory section offers an overview of gifted and talented programming options under the general categories of individualized, special, and regular class provisions. Section 2 discusses identification procedures, presents a chart of available test instruments and their recommended use, touches on identification of gifted/talented disadvantaged students, and offers a sample peer and self-nomination form, as well as a sample parent inventory. Broad aspects of appropriate teaching methods for the intellectually gifted are discussed in section 3. Section 4 focuses on programming options for the academically able, including continuous progress, curriculum and instructional strategies modifications, acceleration, and enrichment. The final two sections deal with programming for highly creative and/or artistic students, and programming for individuals exhibiting leadership qualities. A selected bibliography concludes the document. (JW)

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ED298731

Gifted Talented Students

A Step by Step Approach to Programming

EC 210 767

Wisconsin Department of Public Instruction/Herbert J. Grover, State Superintendent

Gifted and Talented Students: A Step-by-Step Approach to Programming

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This publication is available from:

Publication Sales
Wisconsin Department of Public Instruction
125 South Webster Street
P.O. Box 7841
Madison, WI 53707-7841
(608) 266-2188

Bulletin No. 8180

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Foreword

If a basic tenet of education is that all students ought to be given the opportunity to achieve to their full potential, then we have an obligation to challenge the gifted and talented child. The Wisconsin Legislature recognized this by including among its 20 educational standards one (Standard t) requiring each school district to "provide access to an appropriate program for pupils identified as gifted and talented."

One very important element of Standard t is that it offers parents the opportunity to participate in planning the proposed gifted and talented program. In this Year of the Family in Education, we are celebrating the unity of purpose that exists among our schools, our families, and our communities. We recognize that parents of gifted and talented children must address unique problems and that the educational community is often best equipped to assist them. To that end, this publication should prove helpful.

Robert and Donna Rae Clasen have devoted much of their professional lives to planning and implementing learning experiences and activities designed to expand the horizons of gifted and talented students. This monograph offers valuable insights into gifted and talented children and how Wisconsin school districts can meet their needs. In that regard, this monograph assists the Department of Public Instruction as it aims to broaden the perspective of school district personnel responsible for gifted and talented programming.

Herbert J. Grover
State Superintendent

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Robert E. Clasen holds the rank of professor at the University of Wisconsin-Madison. He currently serves as chairperson of the learning area in the Department of Educational Psychology. He also serves as chairperson of Madison Education Extension Programs and is director of the University Outreach to the Talented and Gifted.

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She has taught English and Spanish at the high school level. She currently is president of the Wisconsin Association of Educators of Gifted/Talented and serves as assistant editor of the Journal of Adolescent Research and was named Wisconsin's Teacher Educator of the Year for 1987.

The Clasens have authored numerous articles concerning the education of gifted and talented students and have presented research papers on this topic at national and international conferences. Both have been involved in the production and presentation of several educational televised courses, including, "Teaching for Thinking: Creativity in the Classroom," "Simple Gifts," "Programming for the Gifted," and "Teachers Tackle Thinking."

Introduction

Gifted and talented children — who are they, and what should be done to educate and nurture them?

An estimated 150,000 children, or between 15 and 20 percent of the school-age population in Wisconsin, can be classified as gifted and talented. How these children fare in the education system will partially determine how they will function in society, what their future will be like, and what contributions these special individuals will make.

More and more, it is clear that the failure to address the unique needs of gifted and talented children is as great a failure as not helping disabled youngsters reach their full potential.

The purpose of this monograph is to suggest approaches educators can take to identify gifted and talented students and to plan and offer programs for their specific needs. A careful reading of this monograph should produce two basic conclusions: that it is possible for a concerned school system to provide appropriate, continuous and systematic programming for gifted, talented, and creative students; and that programming for the gifted and talented requires changes in curriculum and instruction patterns which will benefit all students in the school district, not just those identified as gifted, talented, or creative.

The organization of this monograph falls into seven divisions: an overview of programming efforts for gifted and talented students; ways to identify gifted and talented students; programming for the intellectually gifted; programming for academically able students; programming for "high creatives"; programming for artistics; and programming for students with leadership potential.

1

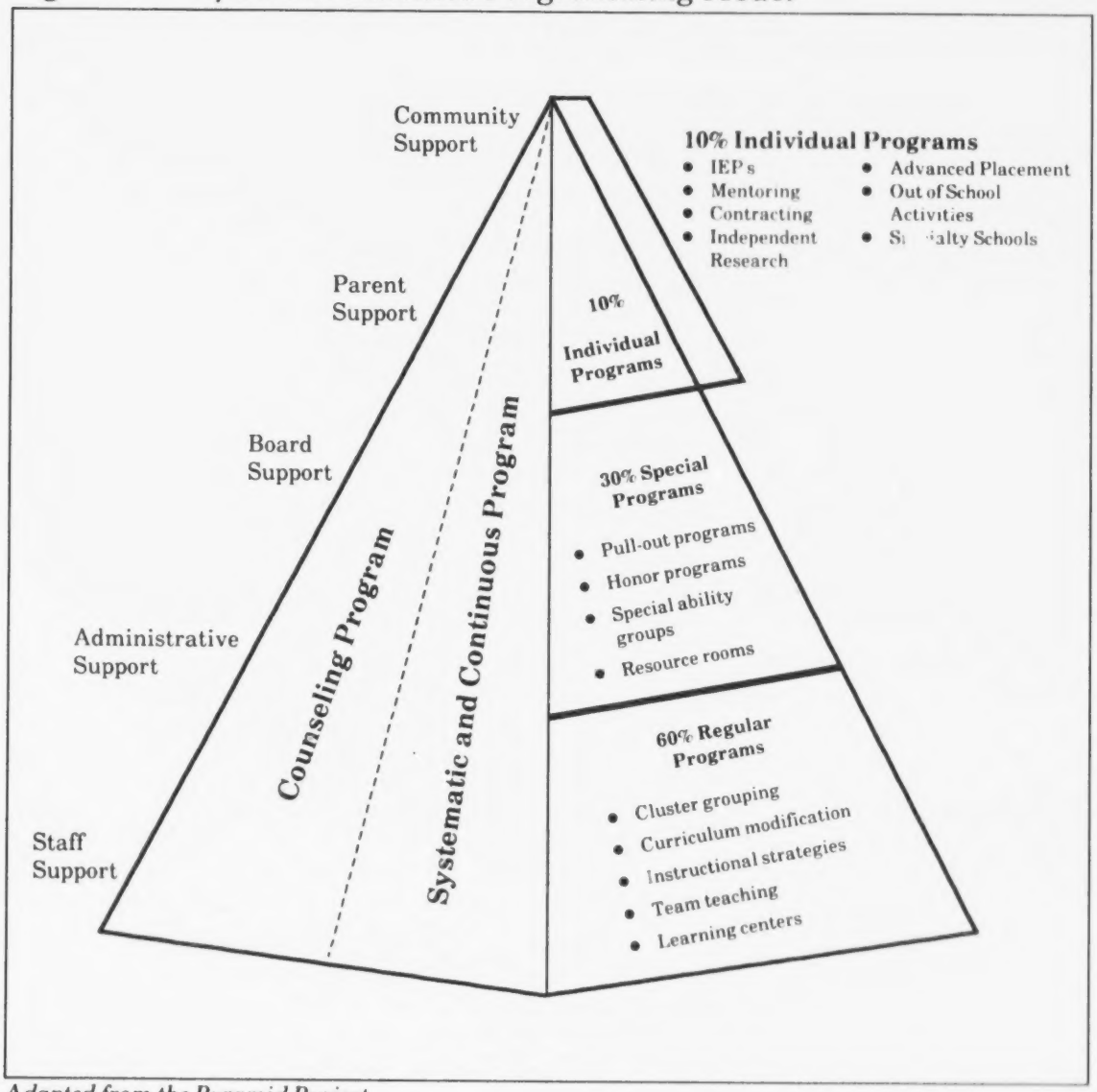
An Overview

June Cox, director of the Gifted Students Institute in Fort Worth, Texas, who has studied programs for gifted and talented students on a national level for the Richardson Foundation, has developed a model (Figure 1) page 4 which can serve as an overview of programming for these special youngsters. The model, which reflects information on gifted programs gathered from hundreds of school districts, has implications for districts just beginning to deal with the idea of programming for these students, as well as implications for districts that have had committees working for years on such issues as who are the gifted and talented and what is meant by the terms gifted and talented.

Based on the model, it appears that the majority of the identified gifted and talented students will need to have their needs met in regular classrooms. Approximately 30 percent will need special provisions beyond the classroom but within the general context of the school. The remaining 10 percent — and this figure could go as high as 15 percent of the gifted and talented — will require extraordinary provisions, efforts not usually associated with many schools as they are currently organized.

It should be noted that two important dimensions have been added to Cox's original model. School districts must realize all gifted and talented students need counseling, and because gifted and talented students learn differently than their "average" contemporaries, efforts need to be made to encourage and ensure the continuous progress of the gifted and talented throughout their school years.

Figure 1 *Gifted and Talented Programming Model*



Adapted from the Pyramid Project (Cox, et al.)

For the foreseeable future, it is reasonable to assume that 60 percent of children identified as gifted and talented will have their educational, social, emotional, and psychological needs met in the regular classroom. For this to happen, three specific changes need to take place.

Teacher training. Either all teachers must be prepared to work with the gifted and talented, or these students must be clustered in rooms with teachers who have both the preparation and the desire to work with them.

Curriculum differentiation. This usually takes the form of dealing with "required" topics in a more abstract or process-oriented way. It sometimes takes the form of "compacting" (see p. 28) required materials so students have time for topics and processes of specific interest to them.

Instructional strategy modification. Teaching-learning transactions are instructional events usually (but not always) initiated by the teacher. They are designed to facilitate a student's dominion over some knowledge, some skill, or some attitude. In the considerable body of recommendations that exist on how to teach the gifted and talented, virtually all suggest ways to focus on process, or to connect with students' developmental needs.

For an estimated 30 percent of students identified as gifted and talented, the regular classroom as it is currently constituted probably does not meet their needs in one or more areas. While it is important that special programs be created for these students, these programs need not be completely individualized, in part because of the size of this group of students. Just as bands, clubs, and other groups are organized on a routine basis for the general school-age population, ensemble-type activities need to be organized for gifted and talented students. Specific activities need not become permanent program features at a school, but the processes for creating such programs should become permanent.

As indicated earlier in this monograph, 10 percent of the gifted and talented, and as many as 15 percent, will have extraordinary needs beyond the ones already noted. Some students can and should finish high school by age 14. Some students can compose and arrange music by age 12. These extraordinarily able students will be interested in a wide variety of topics, ranging from painting to poetry, history to holography, computers to cartography, mathematics to mechanics, and many more. They will require a completely individualized assistance package which will help them develop in ways harmonious with themselves and with others. For these students, mentoring is one possible vehicle, and contracting is another.

What does all of this mean for the typical school district thinking of programming for its gifted and talented students? PI 8.01(2) (t), Wis. Admin. Code, the gifted and talented standard, requires school districts to identify students in five domains: intellectual, creative, artistic, leadership or specific academic areas. Students so identified must then have access to "appropriate" programs, that is, educational opportunities that fill the needs of their talent domains.

A school district could decide to define gifted and talented students as the top 5 percent of a class ranked by IQ. A perusal of the literature on the five talent areas indicates they are not perfectly correlated with each other. This fact also has major implications for a school district's programming efforts.

The correlation between IQ and achievement is about 0.60. While this is a high correlation, it is not absolute. This correlation means that about one-third of what is measured by achievement tests can be attributed to intelligence. The other two-thirds can be attributed to motivation, interest, background, and other factors.

While 5 percent of the students may be identified as intellectually gifted according to the definition provided in the administrative rule, another 3 percent of the same class may actually be achieving at a level higher than those students identified as gifted and talented intellectuals. And if there were 100 students in the grade level, this would mean five would be identified as gifted and talented intellectuals. Two of these students would also be classified as high achievers, but a different set of students would also have to be included as high achievers. That would mean 8 percent (eight students out of the class of 100) would require special programming efforts.

In a school district using only one area as the basis for defining gifted and talented students, 5 percent would be a relatively small number of students. But using only one factor to define gifted and talented students doesn't mean that the five areas listed in the Wisconsin educational standard are actually being addressed. In a class of 100, it is possible that 20 different students could fall into the gifted and talented classification when the five gifted and talented areas are considered. In a school district of 1,500 students, as many as 300 could be classified as gifted and talented.

Applying the information presented in the model, it is possible for a school district to plan its programming efforts. The following calculations and Table 1 provide a guide.

How many gifted and talented students in the five program areas will there be in a district of 1,500 students?

$1{,}500 \times .20 \simeq 300^*$

How many of these students will probably have their special needs met in regular K-12 classrooms?

$300 \times .60 \simeq 180$

How many will probably have their needs met in a special K-12 group program?

$300 \times .30 \simeq 90$

How many will probably require some special individual programming?

$300 \times .10 \simeq 30$

* $\simeq$ means about equal to.

By dividing each of these answers by 13 (the total number of grades K through 12), a school district can come up with an estimated number of the gifted and talented in each grade level.

Regular Classroom	Special Program	Individualized Program
180 ÷ 13 = 14	90 ÷ 13 = 7	30 ÷ 13 = 2
14 per grade level	**7 per grade level**	**2 per grade level**

A school district with 1,500 students has about 120 students at each grade level. In the primary and elementary grades, this would mean four or five sections per grade level. If the 14 students to be dealt with in the regular classroom were randomly found in all class sections, there would be three gifted and talented students per class section. It is important to remember that each of these students may be gifted in different ways from each other.

Table 1 *Giftedness Expectency*

K-12 Student Population	Estimate of Gifted	Regular Classroom	Special Programs	Individual Programs
500	100	60 5/Grade 2/Section	30 3/Grade 1/Section	10 1/Grade .5/Section
1,000	200	120 10/Grade 2/Section	60 4/Grade 1/Section	20 2/Grade 1/3 Section
1,500	300	180 14/Grade 3/Section	90 5/Grade 1/Section	30 3/Grade 1/2 Section
2,000	400	240 18/Grade 3/Section	120 9/Grade 2/Section	40 3/Grade 1/2 Section

The seven students requiring some individual programming efforts would average about 1 per class section, and the three students requiring special programming efforts would average 1 student for every two class sections.

What these calculations might suggest is the desirability of clustering gifted and talented students together. This would give them "eyeball peers" with whom to work, and it would allow them to be assigned to teachers who have the training, as well as an interest, in working with gifted students.

Based on this model, it is also reasonable for a school district to consider hiring someone who will devote considerable time to the identification of and advocacy for gifted and talented students and the development of programming efforts to serve this population. For very small districts, it may be advisable to hire a coordinator through a consortium arrangement with another district or districts or with a Cooperative Educational Service Agency.

2

Identifying the Gifted and Talented

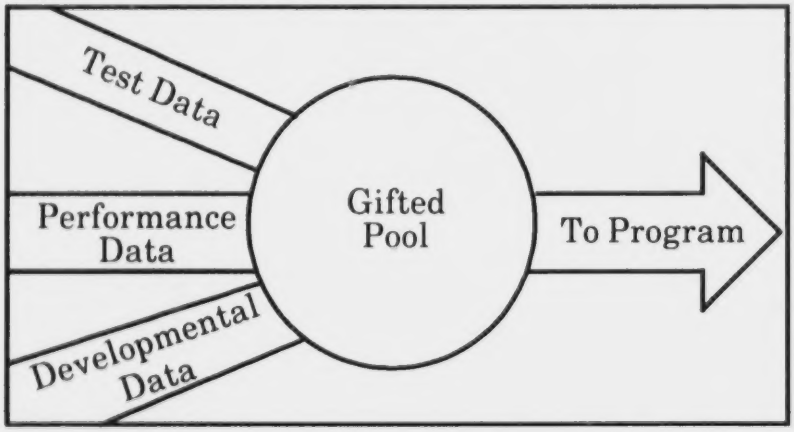
Wisconsin's legislation on gifted and talented education (sec. 121.02 (1) (t), Wis. Stats.) and the administrative rule implementing the statute (PI 8.01 (2) (t), Wis. Admin. Code) require school districts to identify students in five areas: intellectual, creative, artistic, leadership, and other academic areas. Before a school district can provide an appropriate program for such individuals, they must be identified.

Identifying gifted and talented students represents a continuing challenge for Wisconsin's schools. The law requires identification of those actually performing at a level of giftedness and those with the potential to perform. Parents and educational professionals who deal with gifted and talented youngsters know that the potential to perform does not always mean that performance will follow. Nor does it mean that the student's performance will show itself in products that are usual or regular classroom products.

The Wisconsin Department of Public Instruction strongly recommends the use of multiple screens to identify gifted and talented students. Experience shows that multiple screens are the most effective way of identifying this particular student population. Most single screens miss a large number of gifted and talented students. And teacher judgment alone has been shown to miss nearly half of students who might have been identified as gifted and talented if multiple screens had been used. This is particularly true when teachers are asked to identify gifted and talented without adequate training.

Three factors need to be considered when identifying gifted and talented students. They are: test data, performance data, and developmental data. Each is a tributary to the gifted and talented student pool. Together, test data, performance data, and developmental data serve as a way of identifying who the gifted and talented students are.

Figure 2 *Gifted Pool*



Test Data. A wide variety of identification instruments exists. These tests can identify various categories and degrees of giftedness. E. Susanne Richert, director of gifted education at the Educational Information and Resource Center in Sewell, New Jersey, has compiled information about various tests. Table 2 is an alphabetical listing of test instruments and recommendations for test use. Table 3 is a listing of promising practices for identifying gifted and talented students who are classified by school personnel as "disadvantaged."

Performance Data. This involves collecting information about a student's accomplishments and examining records of the outstanding things a student has done. Both curricular and cocurricular activities should be studied.

Developmental Data. These important data come from a variety of sources: parents, physicians, teachers, and peers, among others. Developmental data indicate whether a student is "ahead" of others in the same grade or age bracket.

Table 2 *Test Instruments*

Instruments	Category					Population		Age				IQ Stage		
	General Intellectual	Specific Academic	Creativity	Leadership	Visual and Performing Arts	Advantaged	Disadvantaged	Early Childhood	Grades 4-8	High School to Adult	Grades K-12	Nomination	Assessment	Evaluation
ASSETS	x	x	x		x	x		x	x			x	x	
Barron-Welsh Art Scale					x	x		x	x	x	x	x		
Biographical Inventory-Form U		x	x	x	x	x			x	x			x	
California Achievement Tests		x				x					x	x	x	
California Psychological Inventory						x			x	x			x	
Cartoon Conservation Scales	x						x	x	x			x	x	
CIRCUS	x	x					x	x	x			x	x	
Cognitive Abilities Test	x					x		x	x	x		x	x	
Columbia Mental Maturity Scale	x					x	x	x	x			x		
Comprehensive Tests of Basic Skills		x				x					x	x	x	
Cornell Critical Thinking Tests						x				x			x	x
Creativity Assessment Packet			x			x		x	x	x			x	
Creativity Tests for Children			x			x			x	x			x	
Design Judgment Test					x	x			x	x		x		
Differential Aptitude Tests	x	x				x			x	x			x	x
Early School Personality Questionnaire						x	x		x				x	
Gifted and Talented Screening Form	x	x	x	x	x	x		x	x	x		x		
Goodenough-Harris Drawing Test	x					x	x	x	x	x		x		
Group Inventory for Finding Creative Talent (GIFT)			x			x				x		x	x	
Group Inventory for Finding Interests (GIFFI)			x			x				x			x	
Guilford-Holley L Inventory						x				x			x	
Guilford-Zimmerman Aptitude Survey	x					x				x			x	
Henmon-Nelson Tests of Mental Ability	x	x				x					x	x	x	
High School Personality Questionnaire						x			x	x			x	
Horn Art Aptitude Inventory					x	x	x			x		x		
Iowa Tests of Basic Skills		x				x		x	x	x		x	x	
Kaufman-ABC	x	x				x	x		x			x	x	
Khatena-Torrance Creative Perception Inventory			x			x			x	x		x	x	
Lattell Culture Fair Intelligence Series	x						x	x	x			x		
Lorge-Thorndike Intelligence Tests	x					x		x	x	x				
Maier Art Judgment Tests					x	x			x	x		x		
Metropolitan Achievement Tests		x				x						x	x	
Multi-Dimensional Screening Device	x	x	x	x	x	x						x		
Musical Aptitude Profile					x	x	x		x	x	x	x	x	
Otis-Lennon Mental Ability Test														

Table 2 *Test Instruments (continued)*

Instruments	Category					Population		Age				IQ Stage		
	General Intellectual	Specific Academic	Creativity	Leadership	Visual and Performing Arts	Advantaged	Disadvantaged	Early Childhood	Grades 4-8	High School to Adult	Grades K-12	Nomination	Assessment	Evaluation
Peabody Individual Achievement Test		x				x					x		x	
Pennsylvania Assessment of Creative Tendency			x			x			x	x			x	
Piers Harris Children's Self-Concept Scale						x			x	x			x	
Preschool Talent Checklist	x	x	x	x	x	x	x	x				x		
Primary Measure of Music Abdication					x	x	x	x				x		
Progressive Matrixes – Advanced	x						x			x		x		
Progressive Matrixes – Standard	x						x					x		
Remote Associates Test						x			x			x	x	
Ross Test of Higher Cognitive Processes	x					x			x				x	x
Scales for Rating Behavioral Characteristics of Superior Students	x		x	x	x	x	x				x		x	
Seashore Measure of Musical Talents					x	x	x		x	x			x	
The Self-Concept and Motivation Inventory (SCAMIN)						x	x	x	x	x			x	
Sequential Tests of Educational Progress (STEP)		x				x		x	x	x			x	x
Short Form Test of Academic Aptitude	x	x				x		x	x	x		x		
Slosson Intelligence Test	x					x		x	x	x		x		
SOI Gifted Screening Form		x	x			x	x	x	x	x		x	x	
SOI Learning Abilities Test		x	x			x	x	x	x	x		x	x	
SRA Achievement Series		x				x					x	x	x	
Stallings Environmentally Based Screen	x						x	x				x		
Stanford Achievement Test		x				x		x	x	x		x	x	
Stanford-Binet Intelligence Scale	x					x		x	x	x			x	
System of Multicultural Pluralistic Assessment (SOMPA)	x						x	x					x	
Tennessee Self-Concept Scale						x			x	x			x	
Test of Creative Potential				x		x		x	x				x	x
Tests of Achievement and Proficiency		x				x						x	x	
Torrance Test of Creative Thinking			x				x		x		x	x	x	
Torrance Test of Creative Thinking – Figural											x	x	x	
Torrance Test of Creative Thinking – Verbal			x			x			x					
Vane Kindergarten Test	x	x				x						x	x	
Waston-Glaser Critical Thinking Appraisal	x					x			x	x			x	x
Wechsler Intelligence Scale for Children Revised (WISCR)	x					x		x	x	x			x	
Wechsler Preschool and Primary Scale of Intelligence	x					x		x					x	

Table 3 *The Disadvantaged in Identification*

Groups Disadvantaged in Identification		Promising Practices											
		Inventories/Checklists	Information from Students	Interviews	Biographical Data/ Case Studies	Performance Evaluation	Product Evaluation	Norming for Subpopulation	Culture Fair Tests	Language-Specific Tests	IQ Tests	Instrumental Enrichment	Developmental Curriculum
Environmentally Disadvantaged	The Poor	x	x	x	x	x	x	x	x	x	x	x	x
	Minority Race/Culture Rural/Urban	x	x	x	x	x	x	x	x	x	x	x	x
	English as a Second Language	x	x	x	x	x	x	x	x	x	x	x	x
	Females in Specific Categories	x	x	x	x	x	x	x	x	x	x		x
Disadvantaged by Type of Giftedness	Creative	x	x	x	x	x	x						x
	Exceptional Intellect	x	x	x	x				x			x	x
	Visual/Performing Arts	x	x	x	x	x	x						x
	Psychosocial/Leadership	x	x	x	x	x							x
	Psychosocial/Human Relations	x	x	x	x	x							x
	Females in Specific Categories	x	x	x	x	x							x
Other Disadvantaged	Underachievement	x	x	x	x				x	x	x	x	x
	Physical Handicaps	x	x	x	x							x	x
	Learning Disabilities	x	x	x	x							x	x
	Emotional Problems	x	x	x	x							x	x

An excellent way to gather performance and developmental data is through the nomination process. Peer, parent, teacher, and self-nominations have proven to be valuable ways of identifying gifted and talented students.

Peer nomination and self-nomination involve giving children a chance to identify the best artists, writers, athletes, musicians, etc., in a class. During this process, children are encouraged to write in their own names if they feel they are among the best. A sample peer/self-nomination form (Form 1), along with teacher directions, is included in this monograph. The parent inventory (Form 2) can also be adapted for use by physicians or other professionals who may be able to provide information on the giftedness and talents of a particular student.

The nomination of gifted and talented students by teachers has received a great deal of attention from persons interested in meeting the needs of these special students. Among the best known teacher identification schedules is the Multi-Dimensional Screening Device (MDSD) developed by Bella Kranz, professor emeritus of Morehead (Minnesota) State University. The MDSD is a screening system in which ten elements of giftedness are analyzed. The ten categories are: ability in the visual arts, ability in the performing arts, productive (creative) thinking, academic ability, intellectual ability, leadership, physical abilities, spatial and abstract thinking, discrepancy between performance and general intellectual abilities, and cultural talents.

After receiving training in the use of the screening system, teachers "score" each student in the class by ranking them on several scales for each area of focus.

Once test, performance, and developmental data are collected, the information is "weighted" or ranked. After this is accomplished, the data can be used to identify children for inclusion in a gifted and talented student pool. The way in which a school district weights the data collected on a student is an index of the faith a district has in the identification process being used.

Form 1 *Identifying the Gifted and Talented through Peer and Self-Nominations*

Letter to the Teacher

The Search Committee is expanding the process used to identify gifted and talented students to include peer and self-nomination. The accuracy of this process has been recognized as being reliable. The committee is requesting you distribute this form to your class.

Before you distribute the form, you will want to provide some direction to your students. A sample of the kind of directions you should provide is included. Please tabulate the results of this survey and submit them to your gifted and talented adviser.

Thank you for your cooperation.

Peer and Self-Nomination

Directions to the class:

The school is looking for students who have special talents. We know that you are aware of the talents that some students in your grade have. Please write the name of the person in your grade who best fits the question. You can nominate yourself, but do not sign your name to this form.

1. If your class was planning a surprise party for your teacher, who would you ask to plan it?
2. Who has new, interesting, or really neat ideas?
3. Who is the smartest student in your class?
4. Who is the best artist in your class?
5. Who in your class understands the feelings of others the best?

Once completed nomination forms have been returned to the person or committee in charge of identification, it will have to be decided how to use the information from the forms. For example, all students named may be placed in a talent pool, or only those students identified most frequently included. This form should not be used to restrict entry into a gifted program. Students nominated should be provided with appropriate programming. The same considerations discussed above would apply to the parent nomination form.

Form 2 *Parent Inventory*

Child's Name	Birthdate *Mo./Day/Yr.*	
School	Grade	Date

If you feel your child has special talents, please check the following statements to describe your child as you see him or her.

Key: 1. If you have **seldom or never** observed this characteristic.
2. If you have observed this characteristic **occasionally**.
3. If you have observed this characteristic to a **considerable degree**.
4. If you have observed this characteristic **most of the time**.
5. If you have observed this characteristic **virtually all the time**.

	1 2 3 4 5
Displays a good deal of intellectual playfulness: fantasizes, imagines ("I wonder what would happen if . . ."), manipulates ideas (i.e., changes, elaborates upon them).	☐☐☐☐☐
Has self-stimulated curiosity; shows independence in trying to learn more about something.	☐☐☐☐☐
Chooses difficult problems over simple ones.	☐☐☐☐☐
Is selected by peers for positions of leadership.	☐☐☐☐☐
Adapts readily to new situations; is flexible in thought and action and does not get disturbed when the normal routine is changed.	☐☐☐☐☐
Organizes and brings structure to things, people, and situations.	☐☐☐☐☐
Uses unique and unusual ways of solving problems.	☐☐☐☐☐
Displays a great deal of curiosity about many things, often going beyond known or conventional limits.	☐☐☐☐☐
Possesses a large storehouse of information about a variety of topics (beyond the usual interests of this age).	☐☐☐☐☐
Reasons things out, thinks clearly, comprehends meaning.	☐☐☐☐☐
Expresses interest in understanding self and others.	☐☐☐☐☐
Has interests of older children or of adults in games and reading.	☐☐☐☐☐
Is alert and keenly observant and responds quickly.	☐☐☐☐☐
Strives toward perfection, is self critical, is not easily satisfied with own speed or products.	☐☐☐☐☐
Excels in coordination and agility.	☐☐☐☐☐
Can perform more difficult mental tasks than peers.	☐☐☐☐☐
Seems to sense what others want and helps them accomplish it.	☐☐☐☐☐
Tends to direct others in activities.	☐☐☐☐☐
Sticks to a project or idea once it is started, not easily distracted or discouraged.	☐☐☐☐☐
Sees flaws in things, including own work, and can suggest better ways to do job or reach an objective.	☐☐☐☐☐
Has many different ways of solving problems.	☐☐☐☐☐
Challenges authority when sense of justice is offended, structures alternative approaches.	☐☐☐☐☐
Displays a keen sense of humor and sees humor in situations that may not appear to be humorous to others.	☐☐☐☐☐
Enjoys and responds to beauty.	☐☐☐☐☐
Has unusually advanced vocabulary for age or grade level, uses terms in a meaningful way.	☐☐☐☐☐

What special talents or skills do you think your child has?

How do all of the factors that have been discussed in identifying gifted and talented students fit together? The easiest way to answer this question is to discuss a hypothetical example:

Suppose a school district were to decide it would define gifted and talented students as 5 percent of its brightest (most intellectual, highest aptitude) students. How is that 5 percent to be chosen?

1. Identify the top 5 percent using test data.

2. Identify the top 5 percent using performance data.

3. Identify the top 5 percent using developmental data. Students identified in Steps 1, 2 and 3 form the gifted and talented pool.

4. Identify "overlapping" names — students whose names show up in at least two of the data screens. Any student whose name shows up in test, performance, and developmental data would automatically require special programming.

If the result of the four steps listed above is too many or too few students for program options, a school district could either change the options or change the percentages. The expectation is that this process would be followed in each of the five program areas required by state law and the administrative rule.

3

Programming for the Intellectually Gifted

Intellectually gifted students show unusual precocity in tasks which require reasoning. For the majority of the intellectually gifted, this shows itself in verbal precocity: a large vocabulary, longer than usual sentences, the ability to string words together in interesting and often humorous ways, and the ability to create interesting word associations. A minority of intellectually gifted students have nonverbal precocity: mechanical, spatial, and symbolic skills, including those associated with the practical arts (i.e., tool-using, sewing), fine arts (i.e., drawing, sculpting), and mathematical reasoning (especially geometry and mathematical problem solving involving a minimum of verbal material).

In most instances, intellectually gifted students are identified by teacher judgment and by group of individual intelligence tests. Tests most commonly used are the Stanford-Binet, the WISCR, and the Henmon-Nelson Group Test. Other tests used to identify intellectually gifted students include the Peabody Vocabulary Test and the Goodenough Draw-A-Man Test.

As is the case with all measures, these tests have strengths and weaknesses. One critical weakness is that most tests identify a low percentage of minority students. Overcoming this weakness requires a commitment to the philosophy that ability is distributed normally throughout all groups, regardless of ethnicity. A consequence of this commitment is that minorities will be proportionally represented in the gifted and talented student pool.

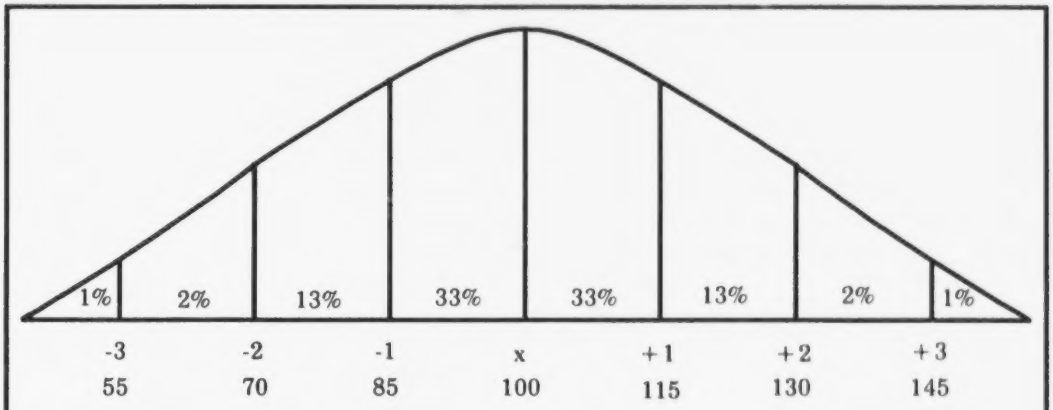
Group tests have a "ceiling" problem. Ceilings mean that it is almost impossible for extremely able children to show their extreme abilities. While group tests underestimate nonverbal skills, individual tests require a high level of verbal skills in order to demonstrate nonverbal skills. The judgment of the test giver is affected by the student's presentational skills; that is, it is affected by the student's personality as well as the student's performance.

To overcome weaknesses in any one identification system, it is recommended that multiple converging measures, measures that produce similar (but not identical) results, be used. Teacher, peer, and parent nomination can be added to individual and group tests and performance indicators to increase the pool of gifted and talented students for which a school district should offer special programming.

An important factor in determining the size of the gifted and talented student pool is the decision on the percentage of students in any cohort group that will be recognized as gifted. Most districts use the top 5 percent in any group as a basic inclusion criterion.

Figure 3 contains the familiar bell-shaped curve and the distribution of intelligence test scores associated with the individual Stanford-Binet. Perusal of this figure suggests that if a district decides to identify 5 percent of its students as intellectually gifted, the lowest IQ eligible for inclusion would be about 127. Choosing a criterion like an IQ of 127 means that the size of the gifted pool will vary from class to class and year to year. Some classes have an over- or underrepresentation of high IQ students. A criterion like 5 percent will always yield a predictable number of students, but the top 5 percent of any class might have a cut-off well below or well above an IQ of 127.

Figure 3 *IQ Scores on the "Normal Distribution"*



33 percent of those tested have IQs between 85 and 100. Other percentages may be read similarly.

It is important to remember that there is no perfect correlation between high ability and high performance. Many school districts do not want to program for high ability students who do not perform well in the classroom. It is bad education to eliminate a student from a program opportunity because of a perceived deficiency in some area not directly connected to that program. A classic example would be the student who does not spell well and is kept from art opportunities. Furthermore, intellectual capacity is best thought of as the potential to perform. The inability to perform may be associated with socio-emotional factors, with a student's experience, or with developmental problems. Withholding experiences in this area because a student is "ineffective" in one or more academic areas fails to develop the skills and talents these students possess.

Programming for intellectually able students can be accomplished in several ways. For students who are able to perform exceptionally well in academic areas, the program can be "coupled" with special efforts in that academic area. Coupling requires something to be added to straight academic programming. This additional programming usually takes the form of a special focus on the processes of a discipline (e.g., learning to function like a historian when studying social studies, learning to function as an archaeologist when studying earth sciences, learning to function as an editor when studying language arts). This focusing should include learning about the tools and instruments of a particular discipline. Another approach to coupling is to focus on how one thinks about a particular discipline. For example, how does one compare, contrast, and predict in social studies, and how are those efforts different from the way one compares, contrasts and predicts in various sciences?

For intellectually able students who do not appear to be performing well in an academic area, the recommended program strategy is to focus on thinking. The goal is to help students to be better thinkers.

Three possible program avenues exist. They are: to teach thinking, to teach for thinking, and to teach about thinking.

The skills involved in thinking can be listed and ordered by grade level. Refer to K-12 Order of Thinking Skills (Table 4). Kindergarten skills are taught using concrete objects (such as leaves, rocks, or colors). These same skills continue to be appropriately taught and reinforced throughout a student's school years. For example, one compares and contrasts biographies and autobiographies in Grade 9, but this is a far more abstract way of thinking than the comparing and contrasting taught in kindergarten.

It is also important to note that at each level of schooling (K-3, 3-6, 6-9, and 9-12), new skills become the focus of direct teaching. By Grade 12, all of the thinking skills that are taught at the previous grade levels are required to do complex mental processes like creative thinking, critical thinking, decision making, problem solving, and planning.

Table 4 *Order of Thinking Skills*

For direct teaching of complex mental processes in grade 12 require distributed practice of all of the skills listed for previous grades.			
K-3	**3-6**	**6-9**	**9-12**
Observe	Measure	Search	Think logically
Associate	Predict	Synthesize	Think creatively
Compare *similarities*	Analyze	Communicate	Think critically
Contrast *differences*	Imagine	Judge	Plan
Record	Interpret	Classify in order	Solve problems
Grade	Infer	Analogize	Make decisions
Seriate	Quantify	similies	Generalize
sequence/order	Translate	metaphors	Rationalize
classify *group*	Hypothesize	Summarize	Explain
Name	Define	Verify	
Guess	Describe	Deduce	
Wish	Organize	Induce	
Remember	Estimate	Evaluate	
	Pretend	Assume	
	Suppose	Exemplify	
	Choose	Narrate	
		Speculate	
		Surmise	

Teaching for thinking requires teachers to focus on learning how to think in a respective discipline. How and what to observe in science is different from how and what to observe in social studies or mathematics.

Included in this monograph is an example of one teacher's attempt to motivate students to think as well as learn content. (Refer to Table 5.) After deciding what to teach, a teacher must then decide why the particular subject matter is being taught. At this stage, the answers should come from the perspective of not only the subject matter, but the social order and the student as well. The next consideration would be to list the thinking skills to be developed, and this is followed by the process into which these skills fit. Finally, the teacher provides some examples of teaching-learning transactions which may help students learn what will be required of them.

Table 5 *Teaching for Thinking*

1. **What** is the content to be taught?	2. **Why** is the subject matter being taught?	3. **Thinking Skills** to be developed	4. **Lifelong Process** to be developed
Weed control in monocrop agriculture	To learn about weeds and herbicides Society trade-offs and ecology Student–To help acquire a set of values that are in harmony with the social environment. –Havighurst To evaluate self in social contexts –Van Den Heuvel	Compare Contrasting Analysis Synthesizing a weed-control plan	Critical thinking

5. Teaching and Learning Transactions How to teach the subject so that students practice the skills and processes while acquiring the knowledge for the purposes stated.

Example

A. Collect weeds, label, classify in terms of vulnerability.
   –Pre-emerge
   –Just emerged
   –Adult systemic

B. Collect herbicide labels and propaganda.
   –Do a weed-by-herbicide matrix
   –Select two-to-three

C. Determine all possible hazards (short/long-term) of each herbicide

D. Develop a truth table for each major herbicide.

E. Write a brief "trade-offs" essay.

The instructional question changes from "How can I get these students to learn about a particular subject?" to "How can I use the subject matter to give students an opportunity to practice lifelong thinking skills and processes while, at the same time, developing a sense of their place in the social order?"

Teaching about thinking occurs when a teacher directs student attention toward their own thought processes and those of their classmates. In the most current literature, this is called meta-cognitive thinking (meta meaning over, above, or larger than).

An example of this would be teaching students about decision making. Give students some sort of simulation (e.g, they are lost on a desert island or are members of Franklin D. Roosevelt's "Brain Trust"). As they work with the situation, the students have to explain why they are thinking as they are and how they are thinking. The strategies used by students are made manifest in a dynamic sharing process among students and between students and teachers.

Over a period of time, and with distributed practice, students learn when certain decision-making strategies are more appropriate than others. They also begin to find out what their own decision-making style is, and they learn that there are alternative ways to do and to think about doing anything. Eventually, students will think about how best to go about solving the problem or making the decision or plan before they actually start to do something. This is thinking about thinking or planning desirable goal.

Other teaching-learning transactions that fit into this format are those which help students focus on how experts in a field go about thinking about their field and those which help students understand and apply linear, logical, analogical, and creative thinking modes.

Current educational-psychological literature is filled with the debate about the "training of the intellect." Some argue that it can and must be done; others argue that basic intelligence cannot be changed or trained. There is a payoff to the individual and to the citizens of the State of Wisconsin when students who show early potential for thinking well are helped to develop this rare and valuable capacity.

4

Programming for the Academically Able

Academically able students are capable of making outstanding progress in one or more of the disciplines taught in school. The disciplines of reference include language arts (reading, writing, speaking, and listening), mathematics, sciences, social studies (history, geography, economics, political science, and psychology), foreign languages, music, art, home economics, physical education, technology education (industrial arts), and health.

Good education of academically able students allows them to progress through the discipline(s) at a pace and in the depth and breadth which reflects their considerable abilities. Given the historical lock-step, age-in-grade orientation of schools, this is extraordinarily difficult to accomplish. It is made more difficult by the fact that students who make remarkable progress in one discipline are quite likely to be capable of such performance in two or more areas.

"Outstanding progress" can be defined by its statistical infrequency. Students in the 95th percentile or above on standardized tests in a particular subject are an easily identifiable group. In performance areas, such as the fine arts, practical arts, and physical education, able learners are identified by their precocity; they do things and reveal an understanding in a manner consonant with development beyond their years.

As a rule of thumb, students who are up to two years advanced can probably have their needs met in the regular classroom. Students who are three to four years advanced will probably require additional support from specialized resources. Students who are more than four years advanced will probably require an individualized educational program.

Three general goals of developmental programming for academically able students can be identified.

- The programming should empower a student to function as a professional in a particular discipline area. For example, students who are academically able in history should be taught the skills used by a historian, and academically able student writers should be given a chance to practice the profession of writing, including publishing their works.

- The programming should allow the academically able student to explore the widest range of possibilities (vocational and avocational) associated with the discipline(s).

- The programming should allow the academically able student to explore content which is in agreement with the student's socio-emotional developmental needs (The precocious may be working on developmental tasks which are several years advanced of their chronological age.).

Programming Options

There are a number of ways in which the goals of developmental programming for academically able students can be accomplished.

Continuous Progress

One of the platitudes of American education is that teachers "take students from wherever they are as far as they can go." This implies continuous progress and flies directly in the face of lock-step, age-in-grade traditions of most schools.

Julian Stanley has repeatedly demonstrated that certain mathematically precocious students can finish all high school mathematics (algebra, advanced algebra, geometry, solid geometry, and trigonometry) in a few weeks, assuming a week would be spent in a diagnostic test-and-teach model. This is one extreme of continuous progress. Less radically accelerated students take advance placement courses in high school which earn them college credit.

While mathematics, music, graphic arts, technology (industrial arts), and home economics lend themselves to continuous progress, the disciplines of language arts, social studies, and sciences require careful thought and organization. Students should be allowed to to be placed at the level of a discipline which is appropriate to their talent and knowledge.

Curriculum Modification

Sandra Kaplan suggests that most classroom teachers, given the will to do so and the training in the appropriate skills, can differentiate curriculum for the gifted and talented students in their classrooms. To accomplish this, teachers need to focus on three variables: the content of the lesson, the process by which students are to learn, and the product the students are to produce.

One way for the regular classroom teacher to approach curriculum modification is by developing a table for curriculum differentiation. (See sample below.) Suppose the topic in social studies is westward expansion. The regular class might learn about the territories that became the United States and from whom they were acquired. The modes of transportation used to expand westward and the barriers that were surmounted might also be studied. Gifted and talented students would probably know this material already or could learn it from skimming their textbook.

Sample Tables *Curriculum Differentiation*

Topic Name			
	Content	Process	Product
Regular			
Gifted			

Completed Table	**Topic: Westward Expansion**		
	Content	**Process**	**Product**
Regular	Land Acquisition Transportation Barriers	Textbook Film Filmstrips Field Trip	Outline
Gifted	Emigration and Immigration	Interviews Biographies Autobiographies Concept Attainment	Newspaper News Story Feature Fillers

The curriculum modification for gifted and talented students would have them study a more abstract, transcending issue. In the example cited above, there are several, such as manifest destiny and nationalism. Of particular relevance today might be the study of immigration and emigration; why do people leave one place and move to another, what causes them to search for a new home?

The process to be used with the regular class might be the textbook supplemented by movies, filmstrips, and a field trip to a pioneer village. Gifted and talented students would spend their time reading biographies and autobiographies, visiting with modern-day immigrants to discuss the issue, or talking to persons displaced by World War II.

The product of the regular class might be individual outlines with major topics examined in detail. Academically gifted and talented students might develop a newspaper on westward expansion, using appropriate forms (e.g., a newspaper-style "lead," feature and follow-up stories, editorials, and fillers). The newspaper could then be distributed to the class.

This kind of differentiation assumes academically able students will "cover" the regular curriculum in one-third the time (or less). The additional time can be used to deal with more abstract, higher-level conceptual materials in ways which support for lifelong learning and which will result in a product that demands sophisticated skills, given the age of the students involved. The role of the teacher is to create opportunities and to provide the support needed throughout the student's school years.

Curriculum Compacting

This is a process in which the critical elements of a subject are identified and taught to a student in the most efficient and purposeful manner possible. Precocity in a subject will allow this gifted and talented individual to handle all but a few of the critical ideas of the discipline independently, or in a carefully directed and contracted study. Relieved of the review and repetition which characterizes many teaching-learning transactions in any discipline, the student is able to "buy time" in which to explore the subtleties of the discipline, to do independent or small group projects, or to do research in the discipline, exploring collateral areas or focusing in on areas of greater interest within the discipline.

Instructional Strategies Modification

Under newer, more inclusive definitions of giftedness and talent, a teacher is likely to have several students in each class who qualify for special attention. The teacher must still conduct classes in a way which facilitates the learning of the majority of students.

To accomplish this, many teachers have begun to modify their instructional strategies in two specific ways.

- They focus on processes and skills using the content of the discipline as the exercise for those processes and skills. For example, the study of Wisconsin turns into a local history project in which academically able students create artifacts which can be used to understand the state and its times. This effort also includes direct teaching of higher-level thought processes (analysis, synthesis, and evaluation).

- They focus on instructional techniques which are open-ended and which create multiple opportunities for student expression of talents and abilities. These techniques include group projects, independent or contracted study, provocative questions, and general attention to the instructional strategies associated with creativity (i.e., brainstorming, morphological synthesis, storyboarding, simulations, role playing, and synectics).

Acceleration

This is an educational process in which students are assisted/allowed to progress through a curriculum at a pace which effectively condenses the amount of time they need to spend in that curriculum. Most academically able students can finish a year's work in a semester; many can do it faster than that. The overall goal of acceleration is to help students enter productive careers earlier in their lives. Along the way, acceleration helps students by placing them at levels of demonstrated competence.

Acceleration and grade-skipping are not the same thing. Acceleration implies speeding through a carefully thought-out sequence of concepts, skills, and knowledges. Grade-skipping usually involves placing a student into an advanced class, with an older group of students, at a curriculum level suitable to those older students. Although academically able students can (with few exceptions) handle the advanced material, they are generally trapped at the grade level to which they are skipped. Some find that level as constraining as the grade level from which they were skipped.

Enrichment

Academic enrichment implies that students are engaged in pursuit of some knowledge, process, or skill which is relevant to a particular curriculum. This is a type of programming in which students are given the opportunity to go deeper and wider into subject matter, depending on their interest and motivation. For example, students who have already mastered the objectives of a unit on colonial society in New England may proceed to compare the Mayflower Compact to some document of incorporation, such as a city charter. Other students more interested in genealogy might visit with families in the community who can trace their ancestry back to the colonial period, or they may visit with a genealogist to see how this kind of tracking is done.

As is almost always the case, the academically able are a good news-bad news combination for most teachers. The vast majority of academically able students are teacher-pleasing fast learners who do well and conform. Yet even these learners need special attention so they do not learn to "get by" on natural ability and learn poor study habits which will condemn them to pain, failure, or both when they are thrust into a more challenging learning environment. The few who are not teacher-pleasers may get bored and behave in ways designed to relieve that boredom. Almost all of these behaviors can be disconcerting to the teacher.

5

Programming for High Creatives

Creativity is a quality of human thought and behavior characterized by originality of thought, action, and product. It is important to remember that uniqueness and originality are relative concepts; things are more or less unique and original.

Most attempts to identify creative children in schools fall into three categories:

By personality. Creative people tend to tolerate ambiguity and enjoy complexity. They are relatively free from concern about what others think about them and are relatively independent in their choices of what to do and when to do it.

By process. This refers to the way in which people go about doing things. More than others, high creatives tend to plunge ahead, to see the potential results and not the problems involved in getting there. When things go wrong, they tend to shrug their shoulders and move ahead to the next thing that deserves their attention. They sense discrepancies and see the humor in many situations. They steer clear of common patterns and invariably ask why something is the way it is. Many high creatives use their intuition and trust their "inner voices," sometimes in the face of what seems to be overwhelming evidence against them. When they have a vision, they stick to it.

By product. Finding creatives by product involves the search for statistical infrequency. When children produce things, even staid things like oral or written book reports, some high creatives generate a product that is quite different from what the rest of the class produces. These statistically infrequent students (perhaps 1 in 25, 50, or 100) are judged to be high creatives.

Instruments have been developed to identify high creatives along these three dimensions. The best known tests of creativity are the Paul Torrance tests; these are product tests. Children are required to produce things which are scored on the basis of statistical infrequency; the test is based on how likely it is for a teacher to get a particular answer from hundreds of children under the same circumstance.

The Davis and Rimm tests (the Group Inventory for Finding Talent test or GIFT, and the Group Inventory for Finding Interest I and II, or GIFFI) are a combination of personality and process tests. Children are asked to respond to stimulus units and are scored as plus for creativity if their responses fit the pattern of the personality or the thinking processes of people who are proven high creatives.

Programming for high creatives almost universally borrows from the work of Paul Guilford and Paul Torrance in that it focuses on four variables:

Fluency. Fluency is the ability to generate lots of ideas across many content categories. A person who is fluent is rarely at a loss for words, can generate long lists when given an appropriate stimulus, loves to bounce off other people's ideas and thoughts, and frequently sees humor in word play.

Flexibility. This is the ability to cut a new path, depending on some internal vision of "ought." Flexible people are comfortable in untried situations. Flexibility is the ability to look at problems and see opportunities.

Elaborateness. This refers to the ability to add structure and detail to almost anything. Not content merely knowing about one element, the elaborate person comments on other aspects in detail.

Originality. Originality refers to statistical infrequency. When one child consistently offers ideas that no one else thinks of, the child is said to be an original thinker. When given a circle as a basic shape in drawing, most children make wheels, foods, or toys. The child possessing originality may use the circle as a belly-button on an orangutan.

A general model for training in creativity includes the following:

Grades K-3 — Bringing creative impulses to full cognitive awareness; becoming aware of one's natural abilities; practicing, perhaps unknowingly, skills associated with creativity.

Grades 4-8 — Becoming aware of the impact of creative potential in one's self and in others and harnessing one's creative potential to learning tasks; becoming aware of one's creativity.

Grades 9-12 — Unleashing one's full creative potential on the tasks of school as preparation for the tasks of life; becoming reflective in the exercise of one's creative potential.

At all three levels, teachers must learn to value creative activity and production; high creatives tend to give "off-target" answers for brilliant reasons. Teachers must develop a positive attitude toward creative production; creativity takes more time than regurgitation, and patience becomes critical. Teachers must also learn techniques for increasing the likelihood that creative utterances will be issued and respected in the classroom.

It is impossible to be creative in a vacuum; one needs to be creative in a line of endeavor or a discipline. But this does not address specific issues in question of the development in creative behaviors in those disciplines or lines of endeavor.

Not enough research has been done to answer whether children can be made more creative. Research has demonstrated that children can learn to produce more ideas, that they can learn to produce better ideas, that they can learn to suspend judgment (to separate the generation of an idea from its evaluation) that they can learn specific techniques which have been successful in producing creative results for others, and that they can learn to understand themselves and what it takes for them to be productive thinkers.

High creatives achieve as well as high IQ students when measured by standardized tests, but they do not do as well when measured by teacher judgment. This suggests that the ways in which high creatives go in the world, the ways in which they interact with content, peers, authority figures, rules, and circumstances, may not always be pleasing to teachers.

High creatives generally rank toward the plus-side of dominance scales; they tend to exhibit more self control, preferring to control themselves rather than to be controlled. They tend to have a high need to achieve according to their own criteria of achievement.

Some high creatives occasionally find difficulty in "going along" with the tranquil routine, the "right answer," and the repetition found in many classrooms. Theirs is a unique ability — the ability to think differently. This can generate a kind of love-hate relationship; they are loved for what they can do for society, but they make others nervous about the specifics of what they are doing. It is the high creatives who produce the wants that turn into tomorrow's necessities. It is the high creatives who push out the boundaries of the meanings of terms such as humanity, society, and life.

Table 6 contains elements that can be used by teachers of high creatives. The table contains the following:

Cognitive Development

Jean Piaget, a pioneer in child psychology, suggests that to learn, all humans practice without knowing, practice knowingly, and, finally, conceptualize what they are doing. When programming for high creatives in Grades K-3, students should be given a great deal of experiential learning in techniques which have been found to foster creative response. In the early use of these techniques, the teacher leads and guides. The techniques are named, and the rules are given, but the focus is on using the techniques (such as imaging or brainstorming) to produce a feeling of joy or playfulness, as well as produce something useful within the context of whatever discipline is being explored and studied.

In Grades 4-9, students begin to practice knowingly. They are asked to employ the techniques they have already learned to solve problems and exercises. The choice of technique and its management is shifted from the teacher to individuals and small groups. The purpose now

becomes competence in disciplines and the internalization of some standards of excellence, elegance, and sophistication.

In Grades 10-12, the effort becomes introspective as students begin to conceptualize. Not only do they use advanced techniques, but they now become aware of themselves operating within those techniques, as individuals and as group members. They begin to discover and minimize their own perceptual, cultural, and emotional blocks to creative thought and expression.

Affective Development

Student motivation to create changes with development. Joy or the desire to get something never disappear, but subtle shifts in emphasis appear, from learning creative techniques to the internalization of standards and, finally, to finding satisfaction in the ability to communicate ideas in new and engaging ways, appear.

Teachers play a critical role in the development of creativity. It was implied earlier that many teachers do not like high creatives as well as they like more conforming teacher-pleasing students. The urge to create can be stifled by mishandling and misinterpretation of the results of that creation. Teachers stifle creativity by demanding results which do not require creativity and penalize creativity's presence, and by expressing openly hostile and negative attitudes verbally and nonverbally.

Subject Matter Skills and Knowledge

Creative painters need to know how to mix paints; woodworkers need to be aware of different wood qualities and grains; musicians need to know scales and chords. Creative persons need field-based skills and knowledge to be able to express their creativity in increasingly complex and engaging ways. It is not enough for high creatives to present their thoughts and creative products to others; it must be done with knowledge of what is being done and why (including its probable impact).

The three-way interaction between creative processes, field-based skills, and attitude is at the heart of this program development suggestion. Concentration on any one element is likely to end in failure. The overall goal of any creativity program should be to help students learn to think independently, to test their ideas, and to communicate in the most effective way possible.

Table 6 *Program Development for High Creatives*

Grade Level	Affective Development	Intellectual Development	
		Creative Production Skills	Field-Related Skills/Knowledge
K-3	Motivated **Value:** Fluency Flexibility Originality Elaborateness **Base Motives:** Joy, to get something	Magnification Rearranging Substituting Minification Checkerboarding Combining Brainstorming Metaphoric thought Visualization	Subproblem Identification (analysis) Sensitivity to problems
4-8	Persevering **Value:** Fluency Flexibility Originality Elaborateness **Base Motives:** Control (competence) Vocational (standard)	Forced relationships Hindrance Avoidance Resisting Premature closures Predicting outcomes	Task analysis Unusual uses Product improvement Missing detail
9-12	Internal control **Base Motive:** Communicating	Synectics Transformation	Analogical thinking blocks

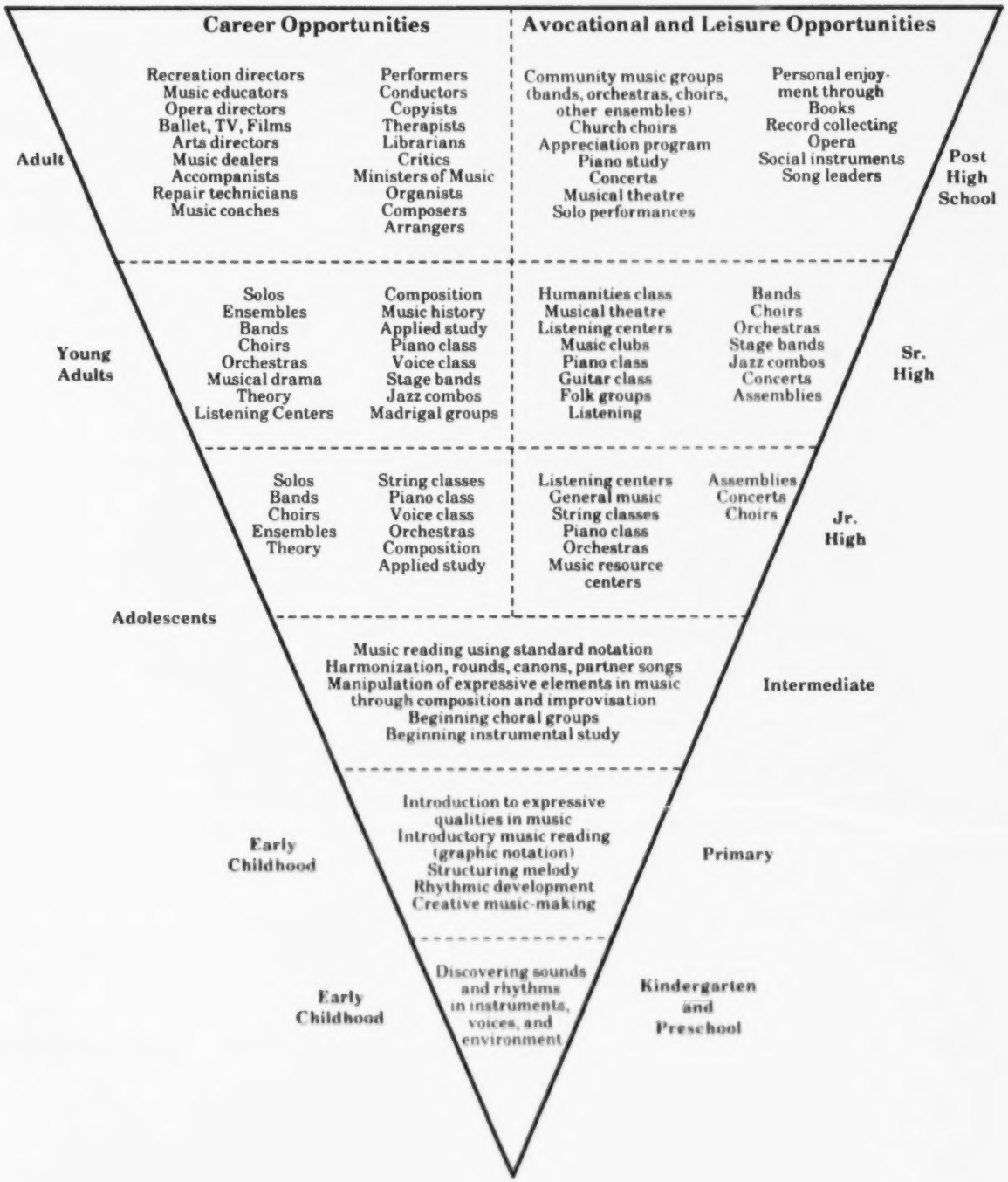
Artistically gifted students have demonstrated their ability or show high potential for significant contributions in the visual and performing arts; this includes acting, writing, painting, sculpting, singing, dancing, playing a musical instrument, and composing. The general purpose of the arts curriculum is not to train all students to become artists but rather to focus their responses on aesthetic levels of meaning in literature and in visual and performing arts. This sets up a kind of tension between the general goals of the art program on the one hand and specific goals for the artistically gifted — those students who either demonstrate ability or exhibit the potential for significant contributions in the arts.

The program cone for music education (Figure 4) from the Wisconsin Department of Public Instruction's *A Guide to Curriculum Planning in Music* is a particularly good approach to programming for artistics. The model is helpful in thinking about the tension between the arts for everyone and the arts for those with demonstrated ability or potential.

Examination of this model shows that by the intermediate grades, a possible bifurcation in program opportunities in the arts occurs, based on demonstrated ability or potential. The artistically able student begins to explore avenues leading to professions in the arts, while the less able (in many instances less interested) student explores avenues leading to avocational or leisure opportunities in the arts.

(While the model included in this monograph is for music, similar models for graphic arts and the performing arts could also be developed by teachers.)

Figure 4 *Program Cone for Music Education*



The identification of students with demonstrated artistic ability should cause no problem for qualified and sensitized teachers who are looking for outstanding talent. Most schools use a system of "special" teachers in art and music who are both qualified and sensitized and whose judgment, while not unerring, can ordinarily be trusted. The process is slightly more complex in contained classrooms where teachers may not have special ability, knowledge, or training in the arts.

The sticky problem comes in the identification of students who have the potential for outstanding contribution in the arts but have not yet exhibited well-developed abilities. Identification can be accomplished if one understands this process implies hierarchical instruction in skills underlying the various art forms. The music model provides a concrete explanation of this. There is a hierarchy between discovering rhythms at the kindergarten level and the use of rhythms in composition at the intermediate level. Students who demonstrate unusual adeptness or speed in moving across this curriculum may be exhibiting potential for contribution and could be considered for inclusion in the gifted and talented program.

The difficulty in recognizing potential artistic talent is compounded by our social structure. A great deal of music, art, and theater education is dependent on private lessons and the provision of opportunities to gain knowledge through experience. Lessons and experience can represent a major financial commitment. Children of wealthier families are apt to have more lessons and more experiences than children from less wealthy families. The last dollar in a family budget is only rarely spent for art and art-related endeavors.

The implication of this becomes clear when artistics reach the intermediate levels and are identified as gifted and talented by their performance activities. Under such circumstances, social class rather than ability will be the major screen, unless a conscious attempt is made to prevent that from happening.

Identification of Artistic Ability (Form 3) suggests ways in which students might be screened for inclusion in the gifted program. (The purpose for screening is inclusion not exclusion.) Using a numbered student roster, numbers of students could be entered in the form if they were in the top tenth of the class on the basis of any of the screens (top axis).

Form 3 *Identification of Artistic Ability*

DA = Demonstrated Ability P = Potential

Student Name											
	Music				Visual Arts				Acting		
	Sing	Dance	Play	Compose	Draw	Paint	Sculpt	Potting	Act	Write	Produce
Nominations Self											
Peers											
Parents											
Teachers											
Tests											
Auditions											
Response to Arts Programs											
Response to Opportunities											
Open Performances											

Student Affect with Respect to the Arts (Form 4) suggests a way of examining student affect with respect to the arts. The screener is asked to consider the level of student engagement. In the arts, student enthusiasm and interest are frequently powerful determinants of eventual success.

Form 4 *Student Affect with Respect to the Arts*

Name				☐ Art ☐ Theater	☐ Writing ☐ Music
	Aware	Respond	Value	Organize	Characterize
Craftsmanship					
Energy Output					
Perceptive Facility					
Creative Imagination					
Aesthetic Intelligence					
Aesthetic Judgment					

Key

Craftsmanship – Pride in performance, attention to detail, striving for excellence.

Energy Output – Excitement, attention span, engagement when connected to an art.

Perceptive Facility – Ease with which pattern, design, space, or sound relationships are perceived.

Creative Imagination – Distance from the ordinary response to art opportunities.

Aesthetic Intelligence – Awareness and appreciation of beauty and grace in textures, colors, lines, shapes, spaces, balance, contrast, rhythm, movement, and sound.

Aesthetic Judgment – Sensitivity in manipulating any or all of the variables listed in 5.

Aware – Student can define key words regarding the arts aspect (music, visual, theater) under review.

Respond – Student attempts to engage the arts aspect.

Value – Student, given free choice, approaches the art aspect. Indicates preference for arts aspect.

Organize – Student commits additional time/energy to pursuit of arts aspect.

Characterize – Student identifies with the arts aspect avocationally or vocationally.

Programming for Artistics

Developing a program for gifted and talented artistics requires that identified students be given the opportunity to expand their ability or develop their potential. Suggestions made in other academic areas apply here; mentoring, pull out, advanced placement, specialty schools, cluster grouping, continuous progress, and differentiated curriculum are all strategies for meeting the needs of the artistically able.

The community is an especially fertile resource in the areas of the arts. Adult theater groups frequently need child actors. Community businesses can serve as public galleries. Student musical performances frequently have warm receptions in hospitals, nursing homes, service clubs, community centers, and civic buildings.

Much in the performing arts is ensemble in nature. By middle school, all performing arts students should be identified with one or more ensembles—an acting troup, a play reading group, duets, trios, quartets, madrigal singers, and composing groups. This will allow gifted and talented artistics to develop within a peer group and be exposed to the "cross-fertilization" experience available from group performances.

The arts have always been a significant part of the American educational scene and deserve a more important position in the future of gifted and talented children. All areas of the arts are among the best of curriculum domains for the teaching of thinking and problem solving. When properly taught, these can be excellent focal points for learning such diverse things as craftsmanship and aesthetic judgment. The energy which learners put into the arts often exceeds that put into other disciplines. For those children with a predisposition to the arts, a vast number of careers and occupations require knowledge of or performance ability in one or more of the arts. (The University of Utah has identified 165 careers that require graphic arts skills and abilities, and the same sort of analysis can be done for other art areas.) For anyone who thinks programming for artistics has no practical application, it should be remembered that there are probably more avenues for employment through the arts than through most other curriculum areas.

6

Leadership

Leaders exercise power and influence to mobilize the capacities of a group for solving its problems, accomplishing its goals, and/or meeting its needs. The ability to lead is as much a gift and talent as is the ability to play a musical instrument extraordinarily well or solve a complex mathematics problem quickly.

Before a school district can program for students who show themselves to be leaders, there needs to be an understanding of what leadership is and how it shows itself.

Most leadership in a democracy is a blending of power and influence. The leader uses social skills of persuasion, negotiation, coordination, and guidance, along with the abilities to direct, delegate, and control in order to accomplish mutually determined objectives.

The leader also helps groups establish and clarify goals, create vehicles or avenues for goal attainment and then keep those channels in proper working order. Few leaders get to create an entirely new order but instead must help maintain the social structure already in place.

Leadership by sheer influence occurs when a group or culture acts only on the basis of consensus. Leadership by sheer power occurs when an individual uses physical strength, money, or position to achieve an outcome regardless of the will or tastes of the group or community.

Experts have considered leadership as a process and given different kinds of leaders different names. Such terms as "great person," "group dynamic," "social role," "charismatic," "legal," and "traditional" are all labels given to leaders and their ways of behaving. In Wisconsin, three particular types of leaders have been identified for special programming efforts.

Trait Leaders. The assumption of this terminology is that leadership is a function of personality. The phrase trait leader is equated with other ideas, such as great person or charismatic leader. Leaders lead; followers follow.

Situational Leaders. This phrase assumes that leadership is a skill-based talent. Persons who know how to set goals, develop and maintain channels, resolve conflicts, and manage groups end up leading.

Style Leaders. Style leaders are elected to assume longstanding leadership roles ranging from team captain to president. They usually operate within a framework of law or tradition. Other names for this type of leader are traditional and legal leaders.

These categories are not mutually exclusive. Style leaders sometimes have charisma, and situational leaders may also have great personal skills. The three categories suggest the complexity of the issue and indicate that different kinds of leaders need to be prepared in different ways. It is also true that different kinds of leaders are needed in different situations. The contrast of the high energy, high activity of President Franklin Roosevelt with the low energy and activity of President Eisenhower — both "style" leaders — illustrates this point. Finally, leaders can be judged to be positive or negative in the eyes of the world and/or his-

tory. For instance, people like Adolf Hitler, who turn out to be negative, are often viewed positively for a long time by the people and groups being led.

Leadership training usually consists of three kinds of activities: social skills training (sharing, cooperating, resolving conflicts, being open, setting priorities), technical skills training (creative problem solving, debating parliamentary procedures, understanding group dynamics, clarifying, teaching, inspiring, planning, building a consensus, coaching, giving feedback), and knowledge development (leadership styles, groups, moral education, organizational theory).

Program Development for Leadership (Table 7) emphasizes changes with the age and maturity of the student. In the early grades, children need to learn affective qualities of leaders. This gives way to technical skill development in the middle years and to self-reflective behavior in high school.

Table 7 *Program Development for Leadership*

Level	Leadership Curriculum	Leadership Qualities	Personal Development Correlates
K-3 Social Skills Development	Sharing/cooperating Assertiveness Conflict resolution Priority setting	*Tendencies Toward* Participation Collaboration Acceptance of diversity Peaceful conflict resolution	Impulsive Avoid pain, satisfy urges Need for security Present time orientation Immediate gratification
4-8 Technical Skills Development	Problem solving Debating Parliamentary procedure Group dynamics Consensus building	*Concern For* All life Individual responsibility Human rights Ecological balance	Law/order morality Connects privilege/ responsibility Affiliates with peers Acknowledges abilities Concept of self-developing
9-12 Self-Knowledge Development	Decision-making Organizational theory Leadership style	*Standards* Justice Freedom Integrity Self-determination Equity	Unique coping styles Internalizes values Evaluates self in social context Abstract thinking

As with all skills, leadership is not a concept one learns in a vacuum. Leadership needs to be practiced and perfected. Every class offers a variety of options to practice leadership, and teachers are encouraged to develop forms and activities in which leadership ideas can be considered and leadership skills practiced.

In doing so, teachers will almost universally find that, from time to time, their perceptions of who leaders are or should be may not jell with the social dynamics of the group. Sometime, in the early grades, a bully will dominate a group. Such a child is a leader, although the child is not using socially desirable means (i.e., manners, tact, diplomacy) to and end. The indicated training for such a leader is to take a negative quality (aggressiveness) and turn it into a positive quality (assertiveness).

In screening for leaders, look for students who are persistent, task-oriented, and self-confident. Look for individuals with integrity and personal autonomy.

In all disciplines, leaders have emerged or been identified. Leaders in science (i.e., winners of a Nobel Prize) should be studied to see how their leadership evolved. The language arts is a fertile field for the study of leadership through biography and autobiography. Political leaders abound in the social studies. Concepts of leadership should be embedded in all curriculums as well as the direct training of certain skills with certain children in special classes or whole class projects.

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